

IN THE CLAIMS:

The current claim set should replace all claim sets currently of record.

1. (Currently amended): A recombinant multimeric protein, comprising
 - a) a polypeptide fusion monomer A, which consists of a ~~cysteine-containing~~ C-terminal fragment of the α chain of C4BP containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO:7, and a polypeptide fragment which is heterologous in relation to said α chain, and
 - b) a polypeptide fusion monomer B, which consists of a ~~cysteine-containing~~ C-terminal fragment of the β chain of C4BP containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO:8, and a polypeptide fragment which is heterologous in relation to the β chain,monomer A and monomer B being linked to each other by a disulfide bridge between the a cysteine of the α chain C terminal fragment and the a cysteine of the β chain C-terminal fragment to form said multimeric protein.
2. (cancelled):
3. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the ratio of the number of monomers A/B varies between 7/1 and 5/3.
4. (Currently Amended): A recombinant multimeric protein according to claim 1, wherein the heterologous fragments in monomer A and in monomer B are ~~specific~~ ligands of the immune system, selected from group consisting of CD lymphocyte surface proteins, antibodies, antibody fragments, antigens and antigen fragments.

5. (Previously Presented): A recombinant multimeric protein according to claim 4, wherein the lymphocyte surface proteins are selected from the group consisting of CD4, CD8, CD16, CD35, CR1 and combinations thereof.
6. (Previously Presented): A recombinant multimeric protein according to Claim 4, wherein the antibodies or antibody fragments are specific for anti-Rh (D).
7. (Previously Presented): A recombinant multimeric protein according to Claim 4, wherein the antigens are vaccinating antigens.
8. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the heterologous fragment in monomer A is a therapeutic enzyme.
9. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the polypeptide fusion monomer A comprises CD4 or a fragment thereof, and monomer B comprises the scFv of an antibody.
10. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the polypeptide fusion monomer A comprises
a ligand selected from the group consisting of an antigen, a therapeutic enzyme, a CD35, CR1, an antibody and any fragment thereof which possesses the ligand property of the whole ligand molecule, and monomer B comprises
an antibody or a fragment thereof which has retained its epitope.
11. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the polypeptide fusion monomer A comprises a vaccinating immunogen, and monomer B comprises a CD4 or a fragment thereof that retains the ligand property of the whole molecule.
12. (Currently amended): A host cell into which has been introduced a heterologous nucleic acid which encodes a recombinant multimeric protein, comprising

- a) a polypeptide fusion monomer A, which consists of a ~~cysteine-containing~~ C-terminal fragment of the α chain of C4BP containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO:7, and a polypeptide fragment which is heterologous in relation to said α chain, and
- b) a polypeptide fusion monomer B, which consists of a ~~cysteine-containing~~ C-terminal fragment of the β chain of C4BP containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO:8, and a polypeptide fragment which is heterologous in relation to the β chain,
- monomer A and monomer B being linked to each other by a disulfide bridge between the a cysteine of the α chain C terminal fragment and the a cysteine of the β chain C-terminal fragment to form said multimeric protein.

13. (Previously Presented): A host cell according to Claim 12, wherein the heterologous nucleic acid sequences have been introduced by either

introducing two separate plasmids comprising the two heterologous nucleic acid sequences, or

-transducing with a first plasmid encoding one of molecule A and molecule B and then transducing again with a second plasmid encoding the other of molecule A and B, or

fusing two cells, one of which has been transduced with a plasmid encoding one of molecule A and molecule B while the other has been transduced with a plasmid encoding the other of molecule A and B.

14. (Previously Presented): A host cell according to claim 12, wherein the heterologous nucleic acid sequences are contained in first and second plasmids, of which the first plasmid is that which was deposited in the C.N.C.M. under No. I-1610 on 12 July 1995, and the second plasmid is that which was deposited in the C.N.C.M. under No. I-1611 on 12 July 1995.

15. (Previously Presented): A method for preparing a multimeric protein as defined in claim 1, the method comprising the following steps:

- transducing at least two target cell lines with at least one plasmid each, each of which plasmids contains a heterologous sequence which respectively encodes a molecule A or a molecule B according to claim 1,

- expressing and isolating the heterologous molecule A and molecule B from the at least two target cell lines,

- placing said molecules, in molecular ratio leading to the predetermination of the expected ratio of the different moieties of the heterologous molecules, in an oxidizing medium to form multimers and,

- isolating the multimers.

16. (Previously Presented): The method according to Claim 15, wherein the transduced lines have been either:

- cotransduced with two plasmids carrying DNA sequences which respectively encode the A and B molecules, or

- transduced with a first plasmid encoding one of molecule A and molecule B and then transduced again with a second plasmid encoding the other of molecule A and molecule B, or

- fused from two cells which have, respectively, been transduced with a plasmid carrying a DNA sequence which encodes molecule A and with a plasmid carrying a DNA sequence which encodes molecule B.

17. (Previously Presented): A composition comprising a recombinant multimeric protein according to Claim 1.

18. -19. Canceled.

20. (Previously Presented): A diagnostic test kit comprising a recombinant multimeric protein according to claim 1 and able to detect the presence of at least

two different ligands with affinity for the heterologous polypeptide fragment of molecule A and the heterologous polypeptide fragment of molecule B, respectively.

21. (Cancelled).

22. (Previously Presented): A recombinant multimeric protein according to claim 1, wherein the C-terminal fragment of the α chain comprises SEQ ID NO 9, and the C-terminal fragment of the β chain comprises SEQ ID NO 10.

23. (Previously presented): A recombinant multimeric protein according to claim 1, wherein the C-terminal fragment of the α chain and the C-terminal fragment of the β chain each include two cysteine residues.

24. (Previously presented): A recombinant multimeric protein according to claim 23, wherein the cysteine residues of the C-terminal of the α chain are located at positions 498 and 510 of SEQ ID 7 and the cysteine residues of the C-terminal of the β chain are located at positions 510 and 549 of SEQ ID NO 8.

25. (Cancelled):

26. (Previously Presented): A recombinant multimeric protein according to claim 1, comprising at least one each of monomer A and monomer B, and at least seven monomers A and B in all.

27. (Cancelled):

28. (Cancelled):

29. (Currently Amended): A recombinant multimeric protein, comprising

- a.) a polypeptide fusion monomer A, which consists of a cysteine-containing C-terminal fragment of the α chain of C4BP contained in containing one or

two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO 7, and a polypeptide fragment, which is heterologous in relation to said α chain and is a ligand of the immune system,

- b.) a polypeptide fusion monomer B, which consists of a cysteine-containing C-terminal fragment of the β chain of C4BP contained in containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO 8, and a polypeptide fragment which is heterologous in relation to the β chain and is a ligand of the immune system,

monomer A and monomer B being linked to each other by a disulfide bridge between ~~the~~ a cysteine of the α chain C terminal fragment and ~~the~~ a cysteine of the β chain C-terminal fragment to form said multimeric protein.

30. (Currently Amended): A recombinant multimeric protein, comprising

- a.) a polypeptide fusion monomer A, which consists of a cysteine-containing C-terminal fragment of the α chain of C4BP contained in containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO 7, and a polypeptide fragment, which is heterologous in relation to said α chain and is a ligand of the immune system,
- b.) a polypeptide fusion monomer B, which consists of a cysteine-containing C-terminal fragment of the β chain of C4BP contained containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by in SEQ ID NO 8, and a polypeptide fragment which is heterologous in relation to the β chain and is a ligand of the immune system,

monomer A and monomer B being linked to each other by a disulfide bridge between ~~the~~ a cysteine of the α chain C terminal fragment and ~~the~~ a cysteine of the β chain C-terminal fragment to form said multimeric protein, wherein

said recombinant multimeric protein activates complement to induce opsonization of cells.

31. (Currently Amended): A recombinant multimeric protein, comprising

a.) a polypeptide fusion monomer A, which consists of a cysteine-containing C-terminal fragment of the α chain of C4BP contained in containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO 7, and a polypeptide fragment, which is heterologous in relation to said α chain and is a ligand of the immune system,

b.) a polypeptide fusion monomer B, which consists of a cysteine-containing C-terminal fragment of the β chain of C4BP contained in containing one or two cysteine residues, wherein the C-terminal fragment is contained within the amino acid sequence represented by SEQ ID NO 8, and a polypeptide fragment which is heterologous in relation to the β chain and is a ligand of the immune system,

monomer A and monomer B being linked to each other by a disulfide bridge between the a cysteine of the α chain C terminal fragment and the a cysteine of the β chain C-terminal fragment to form said multimeric protein, wherein said recombinant multimeric protein activates, modulates or inhibits complement.